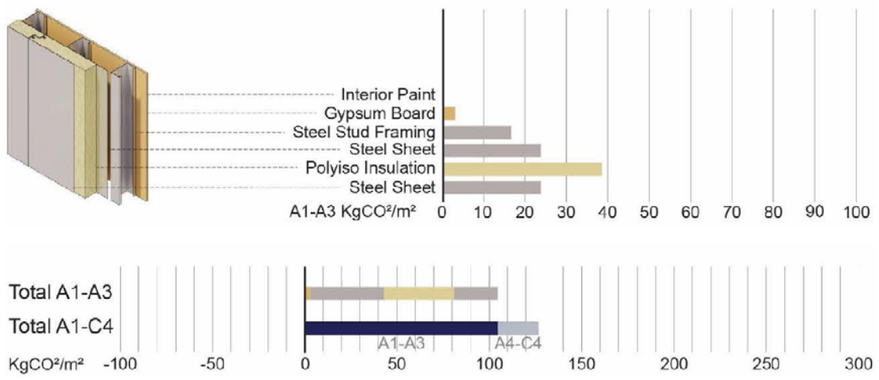
APPENDIX A **WALL ASSEMBLY 11**

W11: Results Summary

Metrics	Results
Description	**Insulated Metal Panel with Polyisocyanurate Insulation**
Effective R-value	RSI-5.2 m^2K/W | R-29.7 $ft^2{\cdot}°F{\cdot}h/BTU$
Embodied Carbon per m^2 of Enclosure (A1-A3)	105.2 $kgCO_2/m^2$
Biogenic Carbon per m^2 of Enclosure	0 $kgCO_2/m^2$



W11: Assembly Effective R-value Calculation

Description	t_{SI}	t_{IP}	k	C (USI)	$RSI_{effective}$	$R_{effective}$	$R_{nominal}$
Units	mm	in	W/mK	W/m^2K	m^2K/W	$ft^2{\cdot}°F{\cdot}h/BTU$	$ft^2{\cdot}°F{\cdot}h/BTU$
Interior air film					0.12	0.68	
Steel sheet (interior)	-	-	-	-	-	-	
Rigid polyisocyanurate insulation	102	4.00	-	-	5.07	28.8	
Steel sheet (exterior)	-	-	-	-	-	-	-
Exterior air film	-	-	-	-	0.03	0.17	
TOTALS	**102**	**4.00**			**5.20**	**29.7**	**0**

W11: Embodied Carbon Emissions (A1 to A3 Life Stages) for 9m² Assembly Area

Category	Material	Description (from EPD)	Thickness	Material Volume	Carbon Emissions (A1-A3)	% of total
Units			mm	m^3	kgCO2e	%
Finish	Interior Paint	Eggshell acrylic paint, 1294.29 kg/m3 **(Generic)**	0.16 (0.0063")	0.0014	0.56	0.1%
Finish	Gypsum board	Gypsum plaster board, regular, generic, 6.5-25 mm (0.25-0.98 in), 10.725 kg/m2 (2.20 lbs/ft2) (for 12.5 mm/0.49 in), 858 kg/m3 (53.6 lbs/ft3) **(Generic)**	12.7 (0.5")	0.1143	26	2.7%
Interior finish support	Interior steel studs	Steel stud framing for drywall/gypsum plasterboard per sq. meter of wall area (incl. air gaps per m3), C-profile: 152.4 x 76.2, gauge 20, 3 m height x 406.4 mm (400 mm) spacing **(Generic)**	-	*	160	17%
Exterior Insulated Prefabricated Pannelized System	Steel sheets	Steel sheets, generic, 30% recycled content, S235, S275 and S355 (Generic)	1 (0.04")	0.009	210	22%
	Polyiso	Generic Polyisocyanurate (PIR) insulation boards (Generic)	101.6 (4")	0.9144	340	36%
	Steel sheets	Steel sheets, generic, 30% recycled content, S235, S275 and S355 (Generic)	1 (0.04")	0.009	210	22%
				TOTAL	**946.56**	100.0%

**Software auto-calculates the impact based on the area provided.*

W11: Environmental Emissions (A1 to C4 Life Stages) for 9m² Assembly Area

Lifecycle Stage		**A1 to C4**	A1-A3	A4-A5	B1-B5	C1-C4	A1-A3 Contribution to total
Category	Units	**Total**	Construction Materials	Transport to Site & Construction	Material Replacement & Refurbishment	Deconstruction	%
Global Warming	kg CO2e	**1147.5473**	948.17	6.94	3.84	188.5973	82.63%
Acidification	kg SO	**4.59E-05**	3.54E-05	0.000001821	0.00000026	8.48E-06	77.00%
Eutrophication	kg Ne	**5.235084**	4.1932	0.0394	2.30E-02	0.979484	80.10%
Ozone Depletion	kg CFC11e	**1.157371**	1.069044	0.00555	0.00098	0.081797	92.37%
Formation of Tropospheric Ozone	kg O3e	**72.305173**	68.999	1.116	0.49	1.700173	95.43%
Fossil Fuel Primary Energy	MJ	**14373.131**	14075.52	197.19	31.43	68.991	97.93%
Biogenic Carbon Storage	kg CO2e	**0**	0				